

ABSTRACT

[0052] When fetching a load value for a load instruction results in a cache miss, the load instruction and any load-dependent instructions may be speculatively executed with a predicted load value and retired before the missing cache line is retrieved and the actual load value is determined. By storing the predicted load value in a table, when the actual load value is determined it may be compared with the predicted load value from the table. If the predicted load value was incorrect, the load and load-dependent instructions may be re-executed with the actual load value. A compiler may determine which load instructions are highly predictable and likely to result in cache misses, and designate only those load instructions for speculative execution.